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**UNITED STATES DISTRICT COURT**
**FOR THE DISTRICT OF IDAHO**

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| NATURAL RESOURCES DEFENSE COUNCIL, INC., SNAKE RIVER ALLIANCE, CONFEDERATED TRIBES AND BANDS OF THE YAKAMA NATION, SHOSHONE-BANNOCK TRIBES,<br><br>Plaintiffs,<br><br>v.<br><br>SPENCER ABRAHAM, SECRETARY, DEPARTMENT OF ENERGY; UNITED STATES OF AMERICA,<br><br>Defendants. | CASE No. CV-01-413-S-BLW<br><br>JOINT AMICUS BRIEF OF IDAHO, WASHINGTON, OREGON AND SOUTH CAROLINA |

## I.
## INTRODUCTION

This matter comes before the Court on cross motions for summary judgment. The States of Idaho, Washington, Oregon and South Carolina appear as *Amici Curiae*.

To summarize the States' position: (1) The Nuclear Waste Policy Act (NWPA) and its definitions apply to DOE. The DOE is required to dispose of defense activity waste in a repository as defined by the Act; (2) "high-level radioactive waste" (HLW),

though initially defined by its source, can be treated or separated and then solidified into "high-level" and non high-level components based upon the concentration of fission products contained in the waste; (3) the "evaluation method" of Order 435.1-Radioactive Waste Management Manual (Manual), section IIB(2)-violates the NWPA by inserting factors, such as economic and technical practicability and ongoing management standards, into the classification of HLW while ignoring the concentration of fission products in the waste. The "evaluation method" further provides unfettered discretion to DOE by allowing classification based upon "alternative requirements for waste classification and characterization as DOE may authorize." These criteria find no support and ignore the relevant factors in the definition of HLW.

For these reasons, the States urge this Court to declare that Order 435.1 violates the NWPA to the extent that, through section IIB(2) of the Manual, it allows DOE to re-classify HLW in a manner inconsistent with the NWPA. This Court should remand the matter to DOE for further action through an appropriate process.

## II.
## THE NUCLEAR REACTION, SPENT NUCLEAR FUEL REPROCESSING AND HIGH LEVEL WASTE.

Discussion of the NWPA and the definition of HLW necessarily involves some familiarity with the mechanics of reprocessing spent nuclear fuel and the meaning of terms such as "transuranic" material and "fission products." These terms and processes are not necessarily terms of common understanding, and for this reason, the States offer the following basic discussion of the nuclear fuel cycle, the reprocessing of spent nuclear fuel, the creation of HLW and its subsequent handling at the various sites in order to assist the Court in deciding this matter.[1]

[1] The States offer this information to assist the Court in understanding the complex factual and technical background of the issues in this case. *Animal Defense Fund v. Hodel*, 840 F.2d 1432 (9th Cir. 1988)

## A. The Nuclear Reaction and Its By-Products

Nuclear energy and weapons production reactors operate by bombarding (irradiating) nuclear fuel materials made of unstable uranium 235 atoms ($U^{235}$). The neutrons cause the $U^{235}$ atoms to split (fission) into smaller radioactive atoms (fission products), releasing heat and more neutrons, which continue the reaction. "Fission products" are radioactive elements with atomic weights less than the original uranium element.[2] Other uranium atoms in the fuel ($U^{238}$) absorb free neutrons to become larger "transuranic" radioactive atoms. "Transuranic" elements have atomic weights and numbers greater than uranium.[3]

As nuclear fuel is "reacted," proportionally less and less $U^{235}$ is available in the fuel and conversely, more and more "fission products" and "transuranic" elements are present. At some point, the reaction becomes inefficient and the fuel is removed from the reactor. Although the fuel is considered "spent," it still contains considerable amounts of $U^{235}$.

## B. Reprocessing of Spent Nuclear Fuel

The "reprocessing" of spent nuclear fuel consists (in basic terms) of dissolving the fuel in an acid bath. Affidavit of Kathleen Trever (Trever Affidavit) ¶ 5. Once completely dissolved the highly acidic, highly radioactive and thermally hot liquid is subjected to various chemical processes to extract the remaining $U^{235}$ and $Pu^{239}$ isotopes, leaving behind other "fission products" and unusable "transuranic" elements suspended in

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[2] "Fission product" this term has a well accepted meaning as was reflected by the Senate Committee on Energy and Commerce report to S. 1662. "Substances produced in the course of fission reaction which have a lower atomic weight than uranium are know [sic] as 'fission products', a number of which are radioactive." S. Rept. No. 97-292, U.S. Serial Set 13404 (Appendix 1)

[3] The transuranic isotope Plutonium 239 ($Pu^{239}$) is produced by the absorption of free neutrons and release of electrons by the uranium 238 ($U^{238}$) isotope and is a principal ingredient in nuclear weapons.

an acid chemical solution as a liquid waste. In some cases acid in the liquid waste is then neutralized by the addition of basic materials. Thereafter the liquid wastes are placed in tanks for storage to await treatment and ultimately disposal. *Id.* ¶ 11.

The waste placed in these tanks over the years has settled and precipitated out solid materials resulting in a layer of sludge and solid and semisolid "tank heel" and saltcake at the bottom of the tank. Trever Affidavit ¶ 5; Wilson Affidavit ¶ 7-10; Crumpler Affidavit ¶ 12-18. Depending upon the nature of the materials used to dissolve the fuel rods and the materials added to neutralize the acid, the chemical composition of the wastes differ. Radiologically, however, the materials are similar since they are highly radioactive. See e.g. Wilson Affidavit ¶ 8.

### C. Site Specific Waste Management Practices

From approximately 1952 to 1991, INEEL "reprocessed" spent nuclear fuel for the purpose of recovering $U^{235}$ and other radionuclides for re-use. Trever Affidavit ¶ 7. It is estimated that reprocessing at INEEL produced approximately ten (10) million gallons of highly radioactive, liquid waste from reprocessing. *Id.* ¶ 9 Approximately eight (8) million gallons of waste were treated at the Waste Calcining Facility and New Waste Calcining Facility which turned the liquid into a solid powder form known as "calcine." *Id.* ¶ 11. There are currently 4,400 cubic meters of calcine stored at the INEEL. *Id.* ¶ 12. There remains approximately 900,000 gallons of liquid waste stored in 11 below-ground storage tanks. *Id.* ¶ 15. Over the years approximately twenty (20) thousand gallons of HLW have leaked into soil and groundwater at INEEL. *Id.* ¶ 16.

At Hanford, reprocessing was undertaken from the late 1940s to the late 1980s to derive plutonium for weapons. Affidavit of Suzanne Dahl-Crumpler (Dahl-Crumpler

Affidavit) ¶ 6-8. Similar to the process at INEEL chemicals were used to first dissolve the irradiated fuel and then to separate the plutonium from the fission and activation products in the liquid. *Id.* ¶ 8-9. Hanford's reprocessing activities generated millions of gallons of liquid wastes, which were placed in 177 underground tanks ranging in size from 50,000 gallons to over one million gallons. *Id.* ¶ 9, 11-12. Of these, 149 are single-shell tanks and twenty-eight (28) are double-shell tanks. *Id.* ¶ 9. Approximately one million gallons of high-level radioactive waste has leaked into the ground from single shelled tanks. *Id.* ¶ 20, 24. Approximately 53 million gallons of radioactive and toxic wastes remain in the tanks with as much as an additional 2.5 million gallons of the same waste in the auxiliary equipment associated with the tanks. *Id.* ¶ 9, 11.

At Savannah River, reprocessing was undertaken in a similar manner to generate plutonium for weapons. Affidavit of David Wilson (Wilson Affidavit) ¶ 3-5. During the course of its operations, Savannah River generated approximately 37 million gallons of liquid waste. *Id.* ¶ 6. These wastes were stored in 51 underground storage tanks. *Id.* ¶ 11. These liquids have precipitated approximately 3 million gallons of semi-solid sludge and saltcake to the bottoms of the tanks. *Id.* ¶ 7-8. The sludge and salt-cake contain approximately 226 million curies of radioactivity. *Id.* Currently there are approximately 34 million gallons of liquid waste in 49 remaining tanks containing approximately 200 million curies of radioactivity. *Id.* ¶ 10.

## III.
## DEFENSE ACTIVITY WASTE MUST BE DISPOSED OF IN A REPOSITORY

The DOE raises anew the argument that the NWPA does not apply to defense activity wastes. This argument was rejected by this Court in its August 9, 2002 Memorandum Decision and Order and thus should be barred as law of the case. *In Re*

*Rainbow Magazine, Inc.*, 77 F.3d 278, 281 (9th Cir. 1996). The Court reasoned that 42 U.S.C. § 10107(b-c) required the President to decide whether to build a separate repository for defense activity waste or to dispose of defense activity wastes in a combined repository. Upon making the choice to combine wastes, compliance by DOE with the requirements of the NWPA was no longer voluntary.

Relying upon selected legislative history DOE contends that the NWPA provides an outright exemption to the requirement to dispose of defense activity wastes in a repository. DOE, however, ignores the plain meaning of 42 U.S.C. § 10107(b-c), 42 U.S.C. § 10121 and the full legislative history of these sections. These sections and history make it clear that DOE is bound by the definition of HLW in the NWPA and is obligated to dispose of defense activity waste in a repository.

### A. DOE Ignores the Plain Language of the NWPA.

Analysis of any statute begins with the plain meaning of the Act. *Alaska Dept. of Env. Conserv. v. U.S. Environmental Protection* Agency, 298 F.3d 814, 818 (9th Cir. 2002). Courts construing statutes presume that Congress intended to enact each section of the statute, and always prefer an interpretation that gives effect to each section. *Biodiveristy Legal Foundation v. Badgely*, 309 F.3d 1166, 1174 (9th Cir. 2002). Accordingly, courts seek to construe statutes harmoniously and to avoid interpretations that would render sections superfluous. *Id.* DOE's arguments in this case violate these canons.

Defense activity wastes are addressed in the NWPA at 42 U.S.C. §§ 10107 and 10121. The plain language of these sections created a phased approach to how defense activity wastes are addressed. In Subsection 10107(a) Congress began by exempting defense activities from the Act. See 42 U.S.C. § 10107(a). Despite this initial exemption, section 10107(b) directed the President to evaluate whether defense activity

waste should be subject to the Act, and to make a choice on whether to conjoin the defense waste management program and the civilian waste management program. Section 10107(b)(1) gave the President two years to evaluate and decide whether to dispose of defense activity waste in a separate repository or a mixed repository. The factors to be considered by the President in making this determination related only to the issue of whether to commingle the wastes and express a clear directive that the only option for disposal of defense activity waste is in a "repository."[4] No leeway is given regarding whether to dispose of the waste in something other than a repository and nothing in this language can be read to imply an option other than disposal in a "repository." DOE's argument that it remains free to dispose of HLW any way it chooses is refuted by this section. To accept DOE's interpretation that defense waste is entirely and permanently exempt from the NWPA would render this section a nullity.

The Act goes on in 42 U.S.C. § 10107(b)(2) to provide that, "[u]nless the President" decides to build a "repository for the disposal of high-level radioactive waste resulting from atomic energy defense activities" the DOE is to "proceed promptly with arrangement for the use of one or more of the repositories to be developed under" the NWPA. DOE is thus under a mandatory duty to dispose of its waste in an NWPA authorized repository and this language unambiguously reflects Congress's intent that defense activity waste be placed in such a repository.

Section 10107(b)(3) then provides that any repository exclusively for defense activity waste is to be subject to the licensing, siting, development, construction and operational requirements of the Nuclear Regulatory Commission regarding the operation of repositories. Once again, the only option discussed by Congress for disposal of defense activity HLW is a "repository." To accept that DOE is free to dispose of defense activity waste in something less than a repository would mean that HLW could be

[4] The terms "repository" and "disposal" as used in this section are defined terms. See 42 U.S.C. § 10101(9) and (18).

disposed of without compliance with the requirements of the NRC and would make this provision a nullity as well.

Finally, in 42 U.S.C. § 10121, Congress declared its intent that "notwithstanding" any provisions in section 10107, any "repository" developed exclusively for defense activity wastes is subject to requirements for notification and participation by States and affected Indian Tribes as provided for in the NWPA. In this section Congress made clear its intent that a repository is the only option for disposal of HLW and that States are to have the rights of participation in siting and selecting a repository as provided in the NWPA. DOE's interpretation would make this provision a nullity by allowing it to dispose of HLW in something other than a repository.

### B. The Legislative History of The NWPA As It Relates to Defense Activity Waste Requires DOE to Dispose of HLW in a Repository.

Relying upon selected legislative history, DOE argues that Congress intended to exempt DOE from the requirement to dispose of HLW in a repository, and from the definitions of HLW in the NWPA. The legislative history of the NWPA, however, does not begin or end with the small portion to which DOE refers this Court. Instead, from its outset the legislative history of the Act makes it clear that defense activity wastes were of grave concern to Congress and that disposal of these wastes in a repository was the only option. At the same time Congress was concerned with the national security issues associated with defense activities. As a compromise, Congress gave DOE an opportunity to evaluate and choose for itself the disposal option of whether to build a separate repository or to commingle the wastes with commercial nuclear materials in a single repository. This compromise is reflected in the provisions of sections 8(b-c) and section 101 of the NWPA. See 42 U.S.C. §§ 10107(b-c) & 10121. This compromise did not, as DOE suggests, give DOE an option to not build a repository for its HLW. Having chosen to commingle its wastes, DOE cannot now contend that it is exempt from the Act or that its waste classification is not governed by the definitions contained therein.

The NWPA was initiated in 1981 with the stated purpose of providing for the disposal of high-level waste in deep geologic repositories.[5] 42 U.S.C. § 10131(b)(1). House Bill 3809 was first reported on by The House Committee on Interior and Insular Affairs. Its report discussed the treatment of defense activity waste and presaged the debate that followed this legislation regarding defense activity waste and the compromise language ultimately enacted.

> The Committee rejected an amendment proposed to explicitly exempt from the Act any facilities for disposal of defense nuclear wastes, in order to assure that facilities constructed and operated under this Act could be available for disposal of wastes from the Department of Energy or the Department of Defense if those agencies should elect to use these facilities.
>
> * * *
>
> The Committee does not endorse in principle or in practice the separation of programs for management of defense and commercial high-level nuclear waste. It is not the objective of this legislation to address that issue, however.
>
> * * *
>
> It could further erode public acceptance of domestic nuclear technology if a public perception existed that a nuclear waste management program represented a solution for only half of the nations high-level nuclear wastes.

H.R. 97-491 Part 1, U.S. Serial Set 13481 (Appendix 2).

The amendment referenced in this report found its way into the Act when it was reported out of The House Armed Services Committee with a new section 5. *Id.* (Appendix 2). The Committee report explained that this amendment was made to clarify that defense activity waste was not governed by the NWPA.

> The amendments to H.R. 3809 recommended by the committee reinforce the special character and importance of the atomic energy defense activities of the United States. While recognizing that a program for the establishment of repositories for radioactive wastes must go forward, the recommended amendments serve a single basic but highly important purpose. That purpose is to prevent vital atomic energy defense activities of the United States from being impeded or burdened by extraneous activities not related to national defense or

[5] There were several versions of the Act introduced as bills in the House of Representatives and the Senate. See 128 Cong. Rec. Pt. 26306 (Appendix 3); House Bill 3809 (Appendix 4); Senate Bill 1662 (Appendix 5). House Bill 3809 ultimately became the bill enacted by both houses. See P.L. 97-425.

national security.

> The Committee on Armed Services amendments are designed to prevent the establishment of storage facilities for civilian generated nuclear waste at facilities now being operated for national defense purposes. The committee emphasizes that the recommended amendments do not foreclose the disposal of defense-generated radioactive waste in such repositories as may be established by this legislation.

See H.R. 97-491 Part II, U.S. Serial Set 13481 (Appendix 6) (emphasis added).

Relying upon this report, DOE argues that defense activity waste is not governed by the NWPA. See Defendants' Memorandum page 27. The version of the NWPA as reported from this committee, however, did not contain the relevant language now found in the NWPA. *Id.* (Appendix 6). Thus, this report does not accurately reflect the entire legislative intent of the Act. The debate surrounding whether to include defense activity waste continued after this report and resulted in the language now found in the Act. On April 29, 1982 the Senate considered an amendment to add a new section 801 to its version of the bill, which is similar to the language now found in the NWPA. See 128 Cong. Rec. Part 6, pgs. 8219 and 8277 (1982) (Appendix 7). This amendment was offered as a compromise to allay concerns about the NWPA and its exemption of defense activity waste. It provided that as part of a comprehensive waste disposal study, the President was to consider whether to dispose of defense activity waste in a separate repository or whether to put it into the repository required under the NWPA. In offering this amendment its sponsor, Senator Simpson (Wyoming) stated:

> By addressing the problem of defense waste disposal, this amendment would make this bill a truly comprehensive nuclear waste management act.
>
> * * *
>
> Congress in the DOE National Security Act has already directed the President to prepare by July of 1983 a detailed plan for the permanent disposal of defense nuclear waste. This plan must include schedules for major decisions, descriptions of needed facilities and estimates of needed expenditures.

> However, nothing in that act requires the President give careful consideration to the option of a unified disposal system as an alternative to separate, duplicative systems of civilian and defense repositories.
>
> Our amendment would remedy this deficiency by requiring the President, in preparing his plan, to evaluate also these options, taking into account all relevant factors, and to proceed with a unified system unless be [sic] determines there is a demonstrated clear need for a defense only repository.

See 128 Cong. Rec., Part 6, pg. 8219 (Appendix 7) (emphasis added).

These reports and discussions demonstrate that as finally enacted the NWPA represents a compromise between those concerned with national security and those desiring a comprehensive solution to the entire nuclear waste issue. The Act allowed for a period of time in which the President was to evaluate and determine whether to emplace defense activity waste in a separate repository or to dispose of it in a commingled repository. Upon making a decision that the wastes would be placed in the same repository, the Secretary was directed to "promptly make arrangements for disposal" of defense activity waste. On April 30, 1985, the President made this decision and thus resolved the debate. A.R. 44637-44638. Ref. 24. Nothing in the Act or its history suggest that DOE has the discretion to dispose of HLW in anything other than a deep geologic repository. To accept DOE's argument that it is free to dispose of defense activity waste in whatever fashion it chooses would negate the negotiated resolution of the debate. The States urge this Court to reject this argument again.

### C. The Definition of HLW Applies to DOE

Regardless of whether it is required to dispose of its waste in a repository, DOE also argues that the definition of HLW should not apply given the language of section 10107(a). To give this section such an effect, however, would effectively negate Congressional intent to require defense activity HLW to be disposed of in a repository

since it would allow DOE to define what is and is not HLW for purposes of disposal. As made clear by the Act, Congress did not intend for DOE to have this choice. Rather, Congress unambiguously directed DOE to dispose of its HLW in a repository. See 42 U.S.C. § 10107(b). In defining HLW, Congress, did not choose to exclude defense activity waste from the definition. See 42 U.S.C. §10101(12) Congress then used the defined term as it discussed defense activity waste in sections 10107(b-c) and section 10121. To accept DOE's argument that it remains free to define HLW without reference to the definition in the NWPA would ignore the deliberate decision of Congress to define this term and its directive that DOE dispose of defense activity HLW in a repository.

## IV.
## THE DEFINITION OF HIGH LEVEL WASTE IS BOTH SOURCE AND CONTENT BASED.

"High-level radioactive waste" is defined in the NWPA as:

> (A) The highly radioactive material resulting from reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid that contains fission products in sufficient concentrations; and
> (B) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation

42 U.S.C.§ 10101(12). NRDC contends that HLW is defined solely by its source. See Plaintiffs Memorandum at pg. 19. DOE contends, to the contrary, that Order 435.1 properly bases characterization of HLW on factors such as the technical and economic burdens of treating the waste, the safety management practices employed by DOE in managing the waste and "alternative requirements" as DOE may determine. The NWPA definition of HLW, however, refutes both interpretations and clearly defines this term.

The plain language of 42 U.S.C. § 10101(12) and its legislative history demonstrate that HLW includes: 1) any highly radioactive material that results from

reprocessing; and 2) after treatment and solidification contains sufficient concentrations of fission products to require deep geologic isolation.

The States reach this conclusion because the definition of HLW contains only two defining elements. First the waste must "result from reprocessing;" and second, with respect to solid wastes that are "derived" from liquid wastes, the "solids" must contain "sufficient concentrations" of fission products. No other factors are found in the definition. Thus, as will be explained in Section V of this brief, DOE's interpretation is in error. Similarly NRDC's interpretation ignores the plainly stated intent to classify solid materials based on the concentration of fission products.

The legislative history of the definition illuminates and supports this interpretation. As introduced, both House Bill 3809 and Senate Bill 1662 defined HLW by reference to its source only. Both definitions also indicated that solidified wastes that were produced from high-level liquid wastes were included in the definition. Neither definition, however, considered the concentration of fission products in the solidified waste form. See Appendices 4 & 5. As the bill moved through various committees the definition evolved but remained consistent. See H.R. 97-491, Pt. I, U.S. Serial Set 13481 (Appendix 2). As reported from The House Armed Services Committee, however, the definition took on a new element relating to the concentration of "fission products in solidified wastes." See H.R. 97-491, Pt. II, U.S. Serial Set 13481 (Appendix 6) In explaining this change the Committee Report states:

> The recommended definition takes into consideration both the source and the hazard of the waste and permits the regulatory agency responsible by law for setting standards for radioactivity (the EPA) to determine the concentration of fission products and transuranic elements that require permanent isolation. This definition is consistent with EPA's responsibility to set those standards.

*Id.* Ultimately, the definitions recommended by the two committees in the house were merged. On September 30, 1982 the bill was read into the Congressional record and contained a definition similar to that contained in the current Act. 128 Cong. Rec. Pt. 19,

Pg. 26324 (Appendix 8). The term was adopted by the House on December 20, 1982 as it reads today. 128 Cong. Rec. 32955 (Appendix 9).

This history makes clear that when defining HLW, Congress intended the first consideration be the source of the material as "resulting from reprocessing." Second, Congress intended the liquid waste could be solidified and the solid materials containing "sufficient concentrations" of "fission products" were to be disposed of as high-level waste. Impliedly, solids with less than "sufficient concentrations" could be disposed of otherwise.

It is undisputed that the nuclear waste stored in tanks at INEEL, Hanford and Savannah River—to which Order 435.1 would apply—meet the definition of HLW. The waste is highly radioactive and is the result of reprocessing. See e.g. Wilson Affidavit ¶ 6-10; Dahl-Crumpler Affidavit ¶ 9; and Trever Affidavit ¶ 9. It is anticipated that DOE will retrieve some quantity of waste from the tanks, treat it to extract certain radionuclides and solidify the waste. To the extent that a solid waste derived from the liquids no longer has sufficient concentrations of fission products, it could properly be reclassified as non-HLW (either low-level waste or transuranic waste). Solidified wastes containing sufficient concentrations of fission products, however, meet the definition of HLW and must be disposed of in a repository.

## V.
## ORDER 435.1 VIOLATES THE NUCLEAR WASTE POLICY ACT.

The evaluation method for waste incidental to reprocessing determinations is found in the Radioactive Waste Management Manual at section II.B. pg. II-13 and provides:

> "Waste resulting from reprocessing spent nuclear fuel that is determined to be incidental to reprocessing is not high-level waste, and shall be managed

under DOE's regulatory authority in accordance with the requirements for transuranic waste or low-level waste, as appropriate."

A.R. 21946-22017.[6] The evaluation method "then establishes criteria for determining whether to re-define the material as low-level waste or transuranic waste. For low-level waste the factors are that the wastes:

> 1. Have been processed or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and
> 2. Will be managed to meet safety requirements comparable to the performance objectives set out in 10 CFR Part 61, Subpart C, Performance Objectives; and
> 3. Are to be managed pursuant to DOE's authority under the Atomic Energy Act of 1954, as amended, and in accordance with the provisions of Chapter IV of this Manual, provided the waste will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C low-level waste as set out in 10 CFR 61.55, Waste Classification; or will meet alternative requirements for waste classification and characterization as DOE may authorize.

*Id.* For transuranic waste the factors to be considered are that the wastes:

> 1. Have been processed or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and
> 2. Will be incorporated in a solid physical form and meet alternative requirements for waste classification and characteristics, as DOE may authorize; and
> 3. Are managed pursuant to DOE's authority under the Atomic Energy Act of 1954, as amended, in accordance with the provisions of Chapter III of this Manual, as appropriate.

*Id.*

DOE contends that these factors represent a reasonable exercise of DOE's discretion in interpreting the definition of HLW found in the NWPA and the AEA and that its interpretation is entitled to deference. Order 435.1, on its face, however, ignores the factors relevant to defining HLW discussed in section IV of this Memorandum, and thus violates the underlying statutory definition. Where an agency's interpretation

[6] At the time this Brief was prepared for filing, Amici counsel could not review the Administrative Record for purposes of verifying specific page numbers. Counsel will supplement the page citations when the clerk locates the Administrative Record and makes it available for review.

violates the statutory language and intent, it is not entitled to deference. *Chevron USA, Inc. v. NRDC*, 467 U.S. 837, 842 (1984); *Biodiversity*, 309 F.3d at 1174.

### A. The Evaluation Method of Order 435.1 Applies to "Highly Radioactive" Materials.

DOE contends, that the term "highly radioactive" as used in the definition of high-level radioactive wastes gives it discretion to reclassify wastes as "incidental to reprocessing." See Defendants Memorandum at pg. 33. DOE points to examples of various materials that are not highly radioactive and its longstanding practice of considering these materials as "incidental to reprocessing" as examples of how this descriptive term in the definition of HLW is applied by DOE. This argument, however, ignores the distinction between wastes that are subject to the "citation method" of Order 435.1 and those to which the "evaluation method" is being applied.

As noted by DOE, neither the Plaintiff nor the States have complained about the "citation method" as set forth in Order 435.1. The wastes set forth and identified in this section of Order 435.1 may properly be considered "incidental to reprocessing" in that these wastes are not a direct waste product of the reprocessing cycle. Rather, as is evident from DOE's description, they constitute the bulk of material that is contaminated as result of secondary contact with wastes resulting from reprocessing. In this sense these wastes are "incidental" to reprocessing. It is for this reason that the States do not attack this section of Order 435.1.

The same cannot be said, however, for the evaluation method wastes and in particular the wastes to which DOE is attempting to apply this method. As demonstrated by DOE's actions at Savannah River, and its pending and proposed WIR determinations. The tank wastes at the site directly result from the reprocessing of spent nuclear fuel and are extremely radioactive. See Trever Affidavit ¶ 9; Wilson Affidavit ¶ 6-10; and Dahl-Crumpler Affidavit ¶ 9. The States urge this Court to reject DOE's attempt characterize

the HLW subject to DOE's evaluation method as anything other than "highly radioactive material resulting from reprocessing."

### B. Order 435.1 Violates the NWPA Definitions of HLW by Considering the Economic and Technical Burdens of Treating the Wastes.

Order 435.1 considers factors that are irrelevant to classifying HLW. In both section (a)(1) and (b)(2), Order 435.1 directs the waste manager to consider the "maximum extent that is technically and economically practical" to remove "key radionuclides." A.R. 21946-22017. Neither of these factors is found in the definition of HLW and, thus, are inappropriate considerations. Waste classification under the NWPA should be based solely on the source of the waste and the concentration of fission products contained in the treated and solidified wastes derived from HLW liquids. If a solidified waste resulting from reprocessing has a sufficient concentration of fission products, it is HLW regardless of the cost or the technical practicability of removing any more radionuclides. DOE's insertion of this term in the classification process, however, allows DOE to determine that something is not HLW because it is too difficult or expensive to treat the waste. In short, DOE bestows on itself the authority to avoid the costs of further treatment by simply re-naming the waste. This Court should reject this factor as irrelevant to the classification of HLW.

### C. The Evaluation Method Gives DOE Unfettered Discretion to Ignore the Concentration of Fission Products Contained in the Waste.

Next, Order 435.1 attempts to reclassify wastes without regard to the source of the waste or the concentration of fission products contained in the solidified waste when it provides in section (a)(3) that waste may be considered "low-level waste" if it is

> ". . . incorporated in a solid physical form at concentration that does not exceed the applicable concentration limits for Class C low level waste as set forth in 10 CFR 61.55, Waste Classification; or will meet alternative requirements for waste classification and characterization as DOE may authorize."

*Id.* At its outset, this provision might seem appropriate since 10 CFR 61.55 and its tables provide for concentration limits appropriate for near surface disposal and those requiring deep geologic isolation. The criteria goes on to violate the NWPA, however, when it provides that these concentrations may be disregarded if the waste meets "alternative requirements for waste classification and characterization." By allowing DOE to disregard the concentration of fission products in the solidified waste in lieu of "alternative requirements" Order 435.1 violates the definition of HLW in the NWPA. It bestows on DOE the power to ignore Congress's intent to require disposal in a repository by allowing DOE to simply call the waste by a different name.

Similarly, in section B(2)(b) of the Manual, no consideration is given to the concentration of "fission products" at all. Rather, it provides that waste can be considered "transuranic waste" if it "will be incorporated in a solid physical form and meet alternative requirements for waste classification and characteristics, as DOE may authorize." Under this provision DOE does not even purport to consider the concentration of fission products in the waste, classifying the material as transuranic waste if it meets "alternative requirements." DOE Order 435.1, thus, violates the statutory intent of the Nuclear Waste Policy Act to require the long-term geologic isolation of high-level waste by disregarding both the source of the waste and the radiological danger in lieu of "alternative requirements." The Court should reject DOE's misguided interpretation and ifs effort to avoid compliance with the requirement to dispose of HLW in a repository.

## VI.
## CONCLUSION

The Nuclear Waste Policy Act of 1982 represents a comprehensive attempt to address the problems plaguing the disposal of high-level radioactive waste. In 1985 the President elected not to develop a separate repository. Consequently, DOE became obligated to dispose of its waste in the mixed commercial repository. To allow DOE to

effectively dispose of HLW in areas other than the NWPA repository would thwart this Congressional intent and nullify the compromise reached by Congress with respect to defense activity HLW.

The proper inquiry under the definition of HLW in the NWPA is whether solid wastes derived form liquid HLW contain sufficient concentrations of fission products. DOE Order 435.1 in its current form violates the NWPA definition of HLW. It provides unfettered discretion to DOE to ignore both the reprocessing origins of waste and the concentrations of fission products it contains and instead base decisions upon the economic and technical burdens associated with further treatment or other "alternative requirements DOE may authorize." Regardless of the name DOE attempts to give its waste, HLW was defined by Congress. DOE's attempt to ignore this violates the express statutory definition and therefore must be rejected. The States urge the Court to remand the matter to DOE.

DATED this 24th day of March, 2003.

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